

## Remarks

### I. Status of claims

Claims 1-23 were pending.

Withdrawn claims 21-23 have been canceled without prejudice.

Dependent claims 24-26 have been added.

The Examiner has indicated that claims 3, 5, 8, 11, 12, and 15 would be allowable if rewritten in independent form.

### II. Claim rejections under 35 U.S.C. § 103

#### A. Claims 1, 17, 18, and 20

The Examiner has rejected claims 1, 17, 18, and 20 under 35 U.S.C. § 103(a) over Thompson (U.S. 6,031,852).

#### 1. Independent claim 1

In the rejection of claim 1, Examiner has stated that the acousto-optic tuner disclosed in FIG. 1 of Thompson comprises:

an optical grating 16 have a grating surface arranged to receive incident light along the light path at an incidence angle relative to the grating surface and to diffract light along the light path 28 at a diffraction angle relative to the grating surface different from the incidence angle (see fig. 1, item reflected light off grating 16 and col. 6, lines 19-25).

Contrary to the Examiner's assumption, however, Thompson's acousto-optic tuner is designed such that light diffracts at a diffraction angle relative to the grating surface that is the same as the incidence angle. Although the locations on the grating surface where the light beams are incident on the grating surface may vary depending on the drive signals that are applied to the acousto-optic transducers 18, 22, the angle of incidence and the angle of diffraction of each light beam relative to the grating surface is the same as shown clearly in FIG. 1 and explained in col. 6, lines 23-24, which equates the deflection angle with the angle of the grating. Indeed, if the incidence angle and the diffraction angle were different as proposed by the Examiner, the light beams would not be confined within the optical cavity

that is defined between the optical coupler 14 and the grating 16, rendering Thompson's acousto-optic tuner inoperable for its intended purpose.

Thus, the Examiner has not shown how Thompson teaches or suggests all of the features of claim 1. For at least this reason, the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) over Thompson should be withdrawn.

2. Claims 17, 18, and 20

Each of claims 17, 18, and 20 incorporates the features of independent claim 1 and therefore is patentable over Thompson for at least the same reasons explained above. Claim 20 also is patentable over Thompson for the following additional reasons.

Claim 20 has been amended and now recites that the wavelength tunable light source includes "a driver that is connected to the first and second acousto-optic deflectors and drives the first acousto-optic deflector with a first signal having a first time-varying frequency profile and drives the second acousto-optic deflector with a second signal having a second time-varying frequency profile substantially corresponding to a time-shifted version of the first time-varying frequency profile."

In the rejection of claim 20, the Examiner has stated that Thompson discloses this feature in "at least col. 6, 1<sup>st</sup> parag.; wherein different frequencies correspond to frequency profile."

In the first paragraph of col. 6 (and elsewhere), however, Thompson merely discloses that the RF generators 20, 24 may drive the acousto-optic transducers 18, 20 are the same or different frequencies. There is no teaching or suggestion anywhere in Thompson that even hints that the RF generator 20 drives the acousto-optic transducer 18 with a first signal having a first time-varying frequency profile and the second RF generator 24 drives the acousto-optic transducer 22 with a second signal having a second time-varying frequency profile substantially corresponding to a time-shifted version of the first time-varying frequency profile.

For this additional reason, the Examiner's rejection of claim 20 under 35 U.S.C. § 103(a) over Thompson should be withdrawn.

Applicant : William R. Trutna, Jr.  
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B. Claims 1, 17, 18, and 20

The Examiner has rejected claims 2, 4, 6, 7, 9, 10, 13, 14, 16, and 19 under 35 U.S.C. § 103(a) over Thompson in view of Paoli (U.S. 3,696,310).

Each of claims 2, 4, 6, 7, 9, 10, 13, 14, 16, and 19 incorporates the features of independent claim 1. Paoli does not make-up for the failure of Thompson to teach or suggest the features of independent claim 1 discussed above. Therefore, each of claims 2, 4, 6, 7, 9, 10, 13, 14, 16, and 19 is patentable over the combination of Thompson and Paoli for at least the same reasons explained above in connection with the rejection of claim 1 over Thompson.

III. Conclusion

For the reasons explained above, all of the pending claims are now in condition for allowance and should be allowed.

Charge any excess fees or apply any credits to Deposit Account No. 50-1078.

Respectfully submitted,

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Edouard Garcia  
Reg. No. 38,461  
Telephone No.: (650) 289-0904

Please direct all correspondence to:

Agilent Technologies, Inc.  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599